

Qualities of a Good/Excellent Lesson For Secondary Mathematics

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Quality	Description	Justification
Hook	An attention grabbing introduction to the lesson. It is short (under 10 minutes) and a good way to lead into the body of the lesson.	In order to get the students attention, we want them to be engaged. Using a hook allows the teacher to introduce a concept in a fun and quick way.
Step by step	All key steps and processes were articulated while they were being done, in a linear/lateral manner.	Instruction needs to be delivered sequentially in order to retain the class' understanding. If a teacher jumps from concept to concept in a disoriented way then they will risk losing a portion of the class.
Builds on prior knowledge	New material is presented in a manner that builds upon concepts already learned. For example, you wouldn't teach logarithms without first teaching the class about exponents.	The lesson should build on prior knowledge. This allows students to develop new knowledge, rather than just memorize an approach. The new lesson is more likely to be forgotten if it is not connected to their prior knowledge/ If you do not relate it to the prior knowledge you will forget it[1]
Using hands on Activities	Activities that are student oriented. It presents the opportunity for students to experiment with examples and try things for themselves.	Not all students learn material in the same ways, so in order to maximize the class' learning as a whole a teacher should try to teach in a variety of ways. Using hands-on activities allows those who are kinesthetic learners to effectively learn the material.
Effective Questions/ Problems	Asking and presenting effective questions and problems, in order to engage and challenge students.	Provides opportunities for learning through discussion and exploration. Motivates students by challenging them to excel.
Visuals	Physical representation of ideas. Can be pictures, videos, models, white-board examples, etc.	Using visuals in teaching allows a teacher to reach those students who require visual stimulation in order to understand concept. Can also help the majority understand a difficult and

		abstract concept (eg. algebra tiles)[2]
Consolidation	A summary of the topics covered, with key ideas highlighted. Can also be an opportunity to evaluate the effectiveness of the lesson, and if the students were successful in learning the ideas.	Important as it sums up the lesson in a quick and easily digestible way. Also allows for the teacher to self-evaluate the effectiveness of the lesson, which is important as it allows the teacher to grow and improve future lessons.
Assessment	A way to know if the students have learned what you have taught.	It is important for a teacher to know whether the class has understood what has been taught. Otherwise the teacher runs the risk of leaving a portion of the class behind, which can seriously jeopardize future learning.
Humour	The teacher should not take the class too seriously, making jokes, or light hearted remarks, about parts of the lesson.	<p>We can use humour to ease students into a relaxed state of mind and prime their process of learning.</p> <p>Paul E. Mcchee, PhD Edditor , (1989) Humor and Children's Development A guide to practical Application, the Haworth Press, Inc. [3]</p>
Agenda	An organized layout of the lesson/class. It lists the activities/topics that will be covered in a sequential order.	Important as it makes the class aware of what is to come in the following lesson(s). This serves to both allow students to prepare as well as it provides context that shows that the current learning leads to a bigger picture/concept.
Engaging	Having the students' attention through the lesson. Keeping them motivated to participate and complete the assigned tasks.	This is important as it is necessary for the teacher to have the students attention in order to be able to effectively teach.
Effective Notes	Not necessarily student written notes (could be handouts, pictures, etc.), but something that summarizes what was learnt by the students and can be effectively	This is useful as it provides students with something other than their own notes that they can use to reinforce what was learned in class. Allows for more effective studying.

	referenced/studied later when studying for tests/exams.	
Pacing	Good pacing occurs when all of a lessons concepts are covered in sufficient depth and at a speed that maximizes learning.	Essential in order to both cover the required curriculum as well as effectively teach the class. Lessons that are too fast paced risk losing the understanding of the class and lessons that are too slow risk losing the class' attention.

[1] Susan E. Cooperstein, Elizabeth Kocavar- Weidinger, (2004) Beyond active learning: a constructivist approach to learning, Volume 32 · Number 2 · pp. 141-148, Retrieved from; <http://www.unc.edu/~bwilder/inls111/111beyondactivelearningWED.pdf>

[2] <http://www.learning-theories.com/cognitive-theory-of-multimedia-learning-mayer.html>

[3] http://books.google.ca/books?hl=en&lr=&id=_bHGQDzSAXcC&oi=fnd&pg=PR11&dq=using+humour+in+the+classroom+articles&ots=wFc1zHyYJt&sig=tF9Q3oRrtgc6soVMYNjP2TDMJ1c#v=onepage&q=using%20humour%20in%20the%20classroom%20articles&f=false